In The Specification

Paragraph beginning at line 4 of page 4 has been amended as follows:

Two important optical properties for a dielectric ARC layer are the refractive index, n; and the extinction coefficient, k. The values of n and k are dependent upon the thickness of the coating layer deposited. The reflective index n is a ratio of c/v, where c is the light velocity in vacuum, and v is the light velocity in the material of interest. The extinction coefficient k is also a function of the wave length of optical beams.

Paragraph beginning at line 7 of page 8 has been amended as follows:

In the method for adjusting the optical properties of a dielectric ARC layer, the dielectric anti-reflective coating layer is deposited of a material selected from the group consisting of $SiO_2$, SiON and SiONH. The method may further include the step of annealing the dielectric ARC layer at a temperature between about 400°C and about 1,000°C. The method may further include the step of annealing the dielectric ARC

layer for a timer period between about 1 min. and about 30 min., preferably between about 3 min. and about 5 min. The method may further include the step of adjusting the optical properties of the dielectric ARC layer to a refractive index (n) between about 2.0 and about 2.5, and an extinction coefficient (k) between about 0.2 and about 0.8.

Paragraph beginning at line 19 of page 9 has been amended as follows:

Figure 1 is a graph illustrating changes in the refractive index based on changes in the $SiH_4/N_2O$ mix ratio for a dielectric ARC layer of SiON.

Paragraph beginning at line 4 of page 10 has been amended as follows:

Figure 3 is a graph illustrating a relationship between the refractive index and the extinction coefficient for a dielectric ARC of SiON.

Paragraph beginning at line 8 of page 10 has been amended as follows:

Figure 4 is a graph illustrating the effect of annealing on the refractive index n and the extinction coefficient k at various annealing temperatures between 300°C and 900°C.

Paragraph beginning at line 10 of page 10 has been amended as follows:

Figure 5 is a graph illustrating the relationship between the refractive index n and the extinction coefficient k as deposited and after annealing in $O_2$ for a dielectric ARC of SiON.

Paragraph beginning at line 14 of page 10 has been amended as follows:

The present invention discloses a method for adjusting the optical properties of an anti-reflective coating layer or a dielectric ARC layer. The present invention method is particularly suited for adjusting the extinction coefficient, k, of a dielectric ARC layer while holding the refractive

index, n, at a constant value. The present invention novel method is particularly useful when a specific photolithographic process requires a different set

Paragraph beginning at line 1 of page 11 has been amended as follows:

of n and k values which requires changes to be made in one value but not in the other value. The conventional method of adjusting the values of the parameters is to change the plasma CVD recipe resulting in changes in both parameters. By utilizing the present invention novel method, the value of one parameter can be held constant while the value of the other parameter is being changed. For instance, the value of the refractive index n for a dielectric ARC layer of SiON can be held constant, while the extinction coefficient k of SiON can be reduced by a suitable annealing process. The present invention novel method enables the adjustment of a single optical parameter independently of the other optical parameter.

Paragraph beginning at line 7 of page 15 has been amended as follows:

The beneficial effect of the present invention novel method is further illustrated in Figure 5, i.e. in a graph illustrating the inter-dependency of the extinction coefficient k on the refractive index n. It is seen that, while the as-deposited SiON layer shows a linear dependency between the two parameters, the annealed films show an entirely different result. After annealing in an oxygen environment for a time period of about 3 min., the reflective index value, n, remains substantially unchanged (fluctuating between a value of 2.16 and 2.18), while the value of the extinction coefficient, k, changes drastically from 0.70 to about 0.30. A film thickness for the SiON layer deposited by the plasma enhanced CVD method is about 620 Å. It should be noted that, for comparison purposes, n = 1.46 and k = 0 for a pure $SiO_2$ layer, while n = 2~2.1 and k = 0.3 for a pure $Si_3N_4$ layer.